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References to individual abstracts are grouped under headings which represent, in the main, general subjects or categories rather than specific names. In the absence of a heading for a particular subject sought, a more general heading should be consulted. E.g. "Zone plates" will be found listed under **"Diffraction"**; "Barkhausen discontinuities" will be found under **"Magnetization."**

The headings (**bold type**) are arranged in alphabetical order, sub-headings being differentiated by the use of lower case type for the initial letter. Copious cross-references are provided to direct attention to relevant headings.

At the end of the Index (for convenience in reference) will be found a collected list of all the headings employed, grouped into sections by subject on the same basis as the monthly issues of "Science Abstracts." The reader is recommended to inspect this before commencing a search, so that no heading relevant to his subject may be overlooked.

Suggestions for the extension and improvement of the Index will be welcomed.

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- Cosmic rays

- Solar system
- Eclipses
- Orbits
- Planets
- Earth
- Moon
- Meteors
- Comets

- Sun
  - radiation
    - radio-frequency
- Sunspots
- Prominences
- Corona

- Stars
  - magnetism
  - magnitudes
  - radiation
- Novae
- Variable stars
- Binary stars
- Multiple stars
- Stellar clusters
- Stellar motion
- Parallax
- Nebulae
- Milky Way

- Astronautics
- Rockets

- Astronomical spectra
- Stellar structure
- Stellar constitution
- Thermonuclear reactions
- Elements
  - origin
  - relative abundances

GEODESY

- Geodesy
- Earth
  - rotation
- Gravity
- Photogrammetry
- Cartography
- Navigation
- Time measurement

PHYSICS

- Physics
- Bibliographies
- Collections of physical data
- Units
- Dimensions

- Errors, theory
- Measurement
  - errors
- Laboratories
- Laboratory apparatus
- Instruments
- Recording

FUNDAMENTALS

- Relativity
  - general
  - unified field
  - kinematical
  - special
- Gravitation

- Quantum theory
  - applications
  - radiation
  - *S*-matrix theory
  - spinor equations
  - wave mechanics
- Fundamental particles
- Photons
- Nuclear forces
- Collision processes
- Constants, atomic
- Electron theory

- Field theory
  - electromagnetic field
  - interactions
    - particle/e.m. field
    - meson-nucleon
  - meson field
  - quantization

- Statistical mechanics
- Indeterminacy
- Random processes
- Fluctuations
- Brownian movement
- Thermodynamics

GENERAL MECHANICS. MECHANICS OF SOLIDS

- Mechanics
- Kinematics
- Stress analysis
- Bending
- Torsion
- Gravitation
- Pendulum

- Dynamics
  - rigid bodies
- Vibrations
- Vibrating bodies
- Damping

- Rotating bodies
- Spin
- Centrifuges
- Gyroscopes

- Ballistics
- Rockets
- Impact
- Friction

MECHANICAL MEASUREMENTS

- Mechanical measurements
- Length measurement
- Length standards
- Micrometry
- Interferometry
- Thickness measurement
- Particle size
- Altimeters
- Area measurement
  - porous substances
- Surface measurement
- Volume measurement

- Mass standards
- Balances
- Density
- Density measurement
- Vapour pressure measurement
- Angle measurement
- Velocity measurement
- Angular velocity measurement
- Acceleration measurement
- Time measurement
- Time interval measurement

- Manometers
- Anemometers
- Torquemeters
- Dynamometers
- Strain gauges

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MECHANICS OF FLUIDS

- Hydrostatics
- Density
- Elasticity, liquids
- Compressibility
- Hydrodynamics
- Viscosity
- Viscosimeters
- Superfluidity
- Flow
- Flowmeters
- Double refraction, flow
- Turbulence
- Vortices
- Cavitation
- Jets
- Sprays
- Lubrication
- Diffusion
  - thermal
- Liquid waves
  - surface
- Supercooling

CAPILLARITY

- Capillarity
- Surface energy
- Surface tension
- Contact angle
- Wetting
- Heat of wetting
- Bubbles
- Foams
- Emulsions
- Films, liquid
- Drops

MOLECULAR THEORY OF LIQUIDS

- Liquids
  - theory
  - structure
- Association
- Diffusion
- Osmotic pressure
- Solutions
- Solubility
- Heat of solution
- Solid solutions
- Liquid helium
- Liquid crystals

GASES

- Compressibility
- Diffusion
  - thermal
- Viscosity
- Density
- Vapour pressure
- Vaporization
- Condensation
- Liquefaction
- Humidity
- Hygrometers

- Aerodynamics
- Aerofoils
- Flow
- Supersonic flow
- Turbulence
- Jets
- Anemometers

- Manometers
- Barometers
- Vacuum apparatus
- Vacuum gauges
- Vacuum pumps

MOLECULAR THEORY OF GASES

- Kinetic theory
- Collision processes
- Molecules
- Statistical mechanics
- Equations of state
- Joule–Thomson effect

VIBRATIONS. ACOUSTICS

- Vibrations
  - excitation
  - measurement
- Waves
- Seismographs
- Vibrating bodies
- Oscillations
- Piezo-electric oscillations
- Damping

- Acoustics
  - musical
- Acoustic waves
- Acoustic wave propagation
- Liquid helium, sound propagation
- Reflection
- Refraction
- Scattering
- Interference
- Diffraction
- Absorption
- Transmission
- Döppler effect

- Elastic waves
- Liquid waves
- Seismic waves
- Shock waves
- Ultrasonics

- Acoustic radiators
- Acoustic transducers
- Microphones
- Hearing aids
- Acoustic impedance
- Acoustic analysis
- Beats
- Resonators

- Acoustical measurements
- Acoustical laboratories
- Intensity measurement
- Velocity

- Musical instruments
- Sound recording
- Sound reproduction
- Speech
- Hearing
- Ear

- Atmospheric acoustics
- Sound ranging
- Architectural acoustics
- Reverberation
- Noise
- Noise abatement

OPTICS. RADIATION

- Light
- Photons
- Light sources
- Velocity
- Döppler effect
- Beats
- Photo-electricity
- Radiation
  - theory
- Radiation pressure
- Radiation detectors
- Bolometers
- Thermopiles
- Emissivity

- Photometry
  - light sources
- Photometers
- Illumination
- Brightness
- Spectrophotometry
- Spectrophotometers
- Densitometry

- Optics, geometrical
- Reflection
- Mirrors
- Optical images
- Aberrations, optical
- Resolving power
- Lenses
  - aspherical
- Prisms
- Refraction
- Refractive index
- Dispersion
- Refractometers
- Optical systems
- Optical materials

- Spectroscopy
  - light sources
- Monochromators
- Spectrometers
  - accessories
- Spectrophotometry
- Spectrophotometers
- Spectra
- Raman spectra
- Stark effect
- Zeeman effect
- Spectral line breadth
- Döppler effect
- Spectrochemical analysis
- Temperature measurement
  - spectral methods
- Astronomical spectra
- Night sky
- Atmospheric optics

- Absorption
- Transmission
- Transparency
- Pleochroism
- Filters

- Luminescence
- Luminescence spectra
- Fluorescent screens

- Reflection
- Reflectivity
- Optical films

- Interference
- Interference fringes
- Interferometry
- Interferometers
- Diffraction
- Diffraction gratings
- Scattering
- Diffusion

- Polarized light
- Double refraction
  - electric, flow
- Optical rotation
- Magneto-optical effects
- Polarimeters
- Photo-elasticity

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- Colour
- Colorimetry
- Colorimeters
- Vision
- Colour vision
- Visibility

- Optical instruments
- Optical materials
- Glass
- Telescopes
- Microscopes
  - phase contrast
  - reflecting
- Microscopy
- Mirrors
- Projectors
- Light sources

HEAT

- Heat
- Heat conduction
- Conductivity, thermal
- Heat transfer
- Heat insulation
- Temperature distribution
- Radiation
- Emissivity
- Convection
- Heating
- Cooling

- Diffusion, thermal
- Thermal expansion
- Thermal transformations
- Phase transformations
- Heat of transformation
- Freezing
- Supercooling
- Melting
- Melting point
- Heat of fusion
- Boiling
- Vaporization
- Evaporation
- Heat of vaporization
- Vapour pressure
- Humidity
- Sublimation
- Heat of sublimation
- Condensation
- Critical constants
- Heat of wetting

- Flames
- Combustion
- Heat of combustion

- Low temperature phenomena
- Superconductivity
- Superfluidity
- Liquid helium
  - sound propagation
- Low temperature production
- Low temperature technique
- Liquefaction, gases
- Joule–Thomson effect

- Temperature
- Temperature measurement
  - spectral methods
- Pyrometers
- Thermometers
  - resistance
- Thermostats
- Thermocouples
- Thermopiles

- Calorimetry
- Heat capacity
- Specific heat
- Heat of dissociation
- Latent heat

THERMODYNAMICS

- Thermodynamics
  - applications
- Thermodynamic properties
- Entropy
- Equations of state
- Joule–Thomson effect

ELECTRICITY

- Electrical measurements
- Units, electrical
- Electrons
- Electron theory

ELECTROSTATICS. DIELECTRICS

- Electrostatics
- Electric fields
- Electric charge
- Space charge
- Contact potential

- Dielectrics
  - measurement
  - theory
- Dielectric properties
  - ferro-electrics
- Breakdown, electric
- Piezo-electricity
- Piezo-electric oscillations
- Electro-optical effects
- Double refraction, electrical

ELECTRIC CONDUCTION. CURRENTS

- Conduction
- Conductivity
- Resistance
- Contact resistance
- Current
- Skin effect
- Semi-conductors
- Superconductivity
- Photo-electricity
- Photoconductivity
- Photovoltaic effects

- Thermo-electricity
- Thermocouples
- Electrokinetic effects
- Electrophoresis
- Zeta potential

ELECTRIC DISCHARGES

- Discharges
  - high-frequency
  - high-pressure
- Breakdown, electric
- Arcs
- Sparks
- Lightning
- Corona

CATHODE RAYS. POSITIVE RAYS

- Electron beams
  - absorption
  - ionization
- Electrons
  - radiation
  - scattering
- Electron emission
  - secondary
- Electron diffraction
- Electron optics
- Electron microscopy
- Electron microscopes
- Ion beams
  - focusing
- Ion microscopes
- Ion sources
- Mass spectrometers
  - accessories
  - applications
- Particle accelerators

DISCHARGE TUBES. COUNTERS

- Counters
  - crystal
  - scintillation
  - operation
- Counter tubes
  - construction
  - discharge mechanism
- Statistical analysis, counters
- Counting circuits
- Ionization chambers
- Cloud chambers
- Photography, particle tracks

IONIZATION. THERMIONICS

- Ions
  - recombination
- Ion velocity
- Ionization
- Ionization potential
- Dissociation

- Thermionic emission
- Ionization, surface
- Work function
- Fluctuations, electrical

X-RAYS

- X-rays
- X-ray measurement
- X-ray absorption
- X-ray diffraction
- X-ray reflection
- X-ray scattering
- Compton effect
- X-ray spectra
- X-ray spectroscopy
- X-ray spectrometers
- X-ray monochromators
- X-ray tubes
- X-ray crystallography
- X-ray examination of materials
- Radiography
  - accessories
  - microradiography

COSMIC RAYS

- Cosmic rays
  - absorption
  - apparatus
  - composition
  - electrons
  - mesons
  - neutrons
  - protons
  - effects
  - showers and bursts
  - variations

MAGNETISM

- Magnetism
- Ferromagnetism
  - theory
- Paramagnetism
- Diamagnetism
- Magnets
- Magnetic fields

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- Magnetization
- Demagnetization
- Gyromagnetic effect
- Magnetic hysteresis, relaxation
- Magnetic measurements
- Magnetic properties of substances
- Paramagnetic resonance absorption
- Nuclear magnetic resonance

ELECTROMAGNETISM. ELECTRODYNAMICS

- Electrodynamics
- Electromagnetism
- Inductance
- Eddy currents
- Field theory
- Light
- Electromagnetic wave propagation
  - atmosphere
  - ionosphere
  - waveguides
- Electromagnetic waves
  - radiators
- Diffraction
- Reflection
- Scattering
- Absorption
- Electromagnetic oscillations
- Spectra, r.f.
- Cosmic radiation, r.f.
- Sun, radiation, r.f.
- Radiation, theory

MAGNETIC EFFECTS

- Magneto-electric effects
- Hall effect
- Magneto-mechanical effects
- Gyromagnetic effect
- Magnetostriction
- Magneto-optical effects
- Magneto-thermal effects
- Magnetochemistry
- Zeeman effect
- Terrestrial magnetism

THEORY OF SOLID STATE

- Solids, theory
- Crystals, lattice dynamics
- Quantum theory

MOLECULAR STRUCTURE

- Molecules
  - dimensions
  - dipole moment
  - dissociation energies
  - excitation
  - internal mechanics
    - energy levels
    - nuclear coupling
  - physical structure
  - relaxation
- Spectra
- Molecular beams

ATOMIC STRUCTURE. ISOTOPES

- Atoms
  - excitation
  - magnetic moment
  - structure
- Constants, atomic
- Atomic beams
- Ionization potential

- Nucleus
  - electric moment
  - energy levels
  - magnetic moment
  - spin
  - theory
- Nuclear magnetic resonance
- Spin-lattice coupling
- Nuclear forces
  - scattering

- Atomic mass
- Atomic volume
- Elements
  - origin
  - relative abundances
- Isotopes
  - detection
  - relative abundances
- Mass spectra
- Isotope separation
- Mass spectrometers
  - accessories
  - application

RADIOACTIVITY. α-, β-, γ-RAYS

- Radioactivity
  - decay periods
  - decay schemes
  - electron capture
  - protection
- Radioactive disintegration theory
- Radioactivity measurement
- Radioactive tracers

- Alpha rays
  - absorption
  - detection
  - effects
  - scattering
- Alpha-ray spectra
- Alpha-ray spectrometers
- Beta rays
  - measurement
- Beta-ray spectra
- Beta-ray spectrometers
- Gamma rays
  - internal conversion
- Gamma-ray spectra
- Gamma-ray spectrometers

NUCLEAR REACTIONS

- Nuclear excitation
- Nuclear forces
  - scattering
- Nuclear reactions
- Nuclear reactions, chemical effects
- Thermonuclear reactions
- Nuclear fission
  - products
- Nuclear fission reactors

- Counters
- Ionization chambers
- Cloud chambers
- Photography, particle tracks
- Collision processes
- Radiochemistry
- Chemical effects of radiations
- Biological effects of radiations

ATOM AND MOLECULE BEAMS. MESONS. NEUTRONS

- Atomic beams
- Molecular beams
- Fundamental particles
- Scattering
- Particle accelerators

- Neutrons
  - absorption
  - detection
  - diffusion
  - polarization
  - production
  - reflection
  - refraction
  - scattering
    - proton-neutron
- Neutron diffraction
- Neutrino

- Mesons
  - absorption
  - decay
  - mass
  - production
  - scattering
- Field theory, meson field
- Protons
  - scattering
- Deuterons
  - scattering
- Electrons
  - radiation
  - scattering
- Electron theory

STRUCTURE OF SOLIDS

- Solids
  - structure
  - theory
- Plasticity
- Surface texture
- Fracture
- Vitreous state
- Granular structure
- Particle size
- Area measurement, porous substances
- Fibres
- Porosity
- Permeability
- Swelling
- Diffusion, solids
- Films, solid
- Solid solutions
- Electron diffraction examination
- Electron microscope examination
- X-ray examination of materials

ELASTICITY. STRENGTH. RHEOLOGY

- Elasticity
- Elastodynamics
- Elastic constants
- Photo-elasticity
- Stress-strain relations
- Elastic limit
- Elastic losses
- Elastic deformations
- Plastic deformations
- Plastic flow
- Plasticity
- Slip
- Compressibility
- Elastic fatigue
- Elastic relaxation
- Creep

- Mechanical strength
- Breaking strength
- Fracture
- Adhesion
- Abrasion
- Hardness
- Work hardening
- Stresses, internal

- Rheology
- High pressure effects
- Friction

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PHYSICAL CHEMISTRY

- Phase equilibrium

- Exchanges, chemical
- Reaction kinetics
- Reaction rates
- Chemical reactions
- Heat of reaction
- Explosions
- Combustion
- Catalysis
- Catalysts

- Electrochemistry
  - electrodes
- Conductivity, electrolytic
- Ions, electrolytic
- Ion velocity, electrolytic
- Electrodeposition
- Dissociation
- Heat of dissociation
- *p*H

- Chemical effects of radiation
- Photochemistry

- Colloids
- Thixotropy
- Sols
- Gels
- Emulsions
- Suspensions
- Aerosols
- Foams
- Particle size
- Centrifuges
- Sedimentation, colloids

- Adsorption
- Adsorbed layers
- Heat of adsorption
- Chromatography
- Phase transformations

- Atomic weight
- Molecular weight determination
- Periodic system
- Elements
  - chemical properties
  - relative abundances
- Bonds
- Valency
- Parachor

- Chemical structure
  - optical, magnetic, etc., effects
- Stereochemistry
- Magnetochemistry
- Polymers
- Polymerization
- Isomerism
- Isomerization

- Laboratory apparatus
- Distillation
- Chemical reactions
- Chemical technology
- Oxidation
- Combustion
- Explosions

- Chemical analysis
  - adsorption
  - polarographic
  - positive rays
  - radioactive
  - X-rays
- Moisture
- Gas analysis
- Spectrochemical analysis

CRYSTALLOGRAPHY

- Crystallography, mathematical
- Crystals
  - electron states
  - faces
  - growth
  - imperfections
  - lattice dynamics
  - orientation
  - twinning
- Crystal chemistry

- Crystal properties
  - electrical
  - magnetic
  - mechanical
  - optical
  - thermal
- Counters, crystal
- Crystallization
- Polymorphism
- Crystal structure
  - molecular

- X-ray crystallography
  - analytical methods
  - apparatus
  - technique
- X-ray examination of materials
- Electron diffraction crystallography
- Electron diffraction examination
- Electron microscope examination
- Mineralogy

GEOPHYSICS

- Geophysics
- Geodesy
- Gravity

- Seismic waves
- Seismographs

- Terrestrial electricity
- Terrestrial magnetism
- Compasses
- Magnetic storms

- Earth
  - age
  - composition
  - heat
  - rotation
- Geophysical prospecting

- Oceanography
- Tides
- Seawater
- Rivers

ATMOSPHERE. METEOROLOGY

- Meteorological instruments
- Hygrometers
- Anemometers
- Barometers
- Weather forecasting

- Atmosphere
  - composition
  - humidity
  - movements
  - structure
  - temperature
  - thermodynamics
- Atmospheric pressure
- Humidity
- Ionosphere
- Ionosphere measuring apparatus
- Ionization
  - atmosphere
- Atmospheric disturbances
- Thunderstorms
- Magnetic storms

- Sunlight
- Sky brightness

- Wind
- Clouds

- Snow
- Ice
- Rainfall
- Fog
- Evaporation
- Climatology

- Atmospheric optics
- Night sky
- Twilight
- Atmospheric electricity
- Aurora
- Lightning
- Atmospheric acoustics

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BIOLOGY

- Biological technique and instruments
- Electrobiology
- Biological effects of radiation
- Zoology
- Physiology
- Biophysics
- Blood
- Vision
- Colour vision
- Hearing
- Ear
- Speech

MEDICAL SCIENCE

- Medical science
- Phototherapy
- Radiotherapy
- Radiography
- Hygiene
- Radioactivity, protection
- X-rays, protection

PHOTOGRAPHY

- Photography
  - applications
  - colour
  - high speed
  - particle tracks
- Lenses
- Cameras
- Photographic light sources
- Photographic materials
  - sensitivity
- Photographic process
  - development
- Photogrammetry
- Densitometry
- Radiography
  - accessories
  - microradiography
- Cinematography

MATERIALS

- Water
- Ice
- Quartz
- Diamonds
- Glass
- Glass-metal seals
- Optical materials
- Ceramics
- Fibres
- Rubber
- Metallurgy
- Metals
- Alloys
- Steel